6/30/05

Nuclear Regulatory Commission Staff Responses to Industry Questions on Generic Letter 2004-02

Industry Question 1:

The GL states in 2(a), "This submittal should address the configuration of the plant that will exist once all modifications required for regulatory compliance have been made....". In 2(ii) it states: "The submerged area of the sump screen at this time and the percent of submergence of the sump screen (i.e., partial or full) at the time of the switchover to sump recirculation." What does "at this time" mean?

Staff Response:

The staff realizes that this item was worded ambiguously. To clarify, the two pieces of information requested in Item 2.(d)(ii) of Generic Letter 2004-02 are (1) the submerged area (ft^2) of the recirculation sump screen at the time of switchover to recirculation, and (2) the percentage (%) of the sump screen area that is submerged at the time of switchover to recirculation.

Industry Question 2:

Although a full response will be provided to address all the information requested, certain information will be subject to confirmation. Even when the sump performance analyses are complete, design change details are not. Head loss for new sump screens and constituents of the debris may not be final as of the September submittal. Finalization of design may include removal or replacement of some debris sources as well as plant specific testing. Margins that are described for chemical effects will need confirmation at some point. Would the Nuclear Regulatory Commission (NRC) find commitments to confirm final design details by, say, March 1, 2006, acceptable?

Staff Response:

The staff expects that licensees will provide the information requested in the generic letter to the best of their abilities by the requested submittal date (September 1, 2005). However, the staff would be comfortable with minor updates to the September response if further analysis or investigation brings to light new information. An example would be a small change in the head loss calculation if a licensee finds during a containment walkdown a difference between the debris loading assumed in the calculation and what actually exists in containment. Other examples of minor changes could include the correction of an error or the adoption of a refinement in a calculation that does not result in significant design changes.

The staff is concerned that major changes to licensees' September 1st generic letter responses (concerning either the sump performance evaluation or the design details for any planned plant modifications) could result in delaying the ultimate resolution of Generic Safety Issue 191 beyond December 2007. For this reason, if a licensee subsequently desires to make major changes to its September 1st generic letter response, the staff will likely attempt to pursue additional interactions with that licensee to ensure that the overall resolution schedule is maintained.

Finally, a substantially incomplete September 1st response would be considered non-responsive to the generic letter and would result in additional interactions with the staff and possibly additional regulatory action.

Industry Question 3:

Multiple license amendment request (LARs) may be required. Potential LARs include test specification (TS) changes for active sumps, TS changes for RWST level setpoints, TS changes for replacing sodium hydroxide (NaOH) with trisodium phosphate (TSP), LA changes for credit for containment overpressure, etc.. Should License Amendment Requests related to the GL response be separate submittals from the Generic Letter (GL) response or contained within? [Note; Separate submittals is a recommended response]

Staff Response:

The staff recognized in GL 2004-02 that some licensees may be prompted to request licensing actions as a result of plant modifications to enhance the emergency sump recirculation function. However, the staff realizes that the wording chosen in the Requested Information Section, concerning licensing action and exemption requests (Item 2.(e)) is ambiguous.

To clarify, the staff generally expects that, unless the licensee desires that the staff's review be completed prior to September 1, 2006, licensing action, exemption, and relief requests related to Generic Letter 2004-02 need not be included in the generic letter response of September 1, 2005 (although they may be included if desired).

License changes requiring NRC approval via license amendment or exemption or relief should be submitted according to a schedule that provides sufficient time for NRC staff review and licensee implementation well in advance of December 2007 (or possibly sooner if the licensee desires to implement the changes significantly earlier). The NRC staff believes that four months following the September 1, 2005 submittals would allow sufficient time for licensees to submit license changes for prior NRC approval (i.e., submit license changes by December 31, 2005). The staff expects that evaluations conducted in accordance with 10 CFR 50.59 to determine if prior NRC approval of a license change is required will be completed and discussed in the September 2005 submittals.

Depending on the proximity of licensees' desired implementation dates for requested licensing action requests as well as the complexity of the technical issues involved, however, some licensees may find it necessary to submit licensing action requests prior to December 31, 2005, to support their implementation goals. In particular, licensees desiring licensing actions to be completed prior to September 1, 2006, should submit such licensing action requests along with the generic letter response or contact their NRC project managers to work out an acceptable alternate schedule for submission.

Industry Question 4:

2.d(v) asks for our basis for concluding that downstream effects would not be an issue. The WCAP studying the downstream effects is not complete yet (forecast for end of June). We

need this WCAP in order to finalize evaluation of downstream effects. There will not be sufficient time to complete the downstream effects evaluation, and to develop any necessary design changes prior to the September 1 submittal. This is the basis for our GL 90-day response with an 11/06 schedule date (for which we have received an RAI) for completion of the downstream component evaluations.

Staff Response:

The staff expects that licensees will complete their evaluations of emergency recirculation sump performance (including downstream effects) in sufficient time for the requested September 1st submittal date. Although the WCAP report concerning downstream effects may not be completed until the end of June, downstream effects have been a recognized component of Generic Safety Issue 191 since December 2002. The downstream effects issue was included in Bulletin 2003-01, (which addressed interim compensatory measures regarding recirculation sump performance), dated June 9, 2003, and the staff announced at an industry sump performance workshop in August 2003 that the planned follow-on generic letter (intended to address corrective actions regarding recirculation sump performance) would also likely include downstream effects. Therefore, the staff concludes that licensees have been well apprised of the staff's intention to resolve the downstream effects issue in conjunction with Generic Safety Issue 191 and Generic Letter 2004-02, and that there existed ample opportunity for industry to prepare guidance or for licensees to perform individual downstream effects evaluations. Therefore, the late-June issuance of the WCAP report does not provide sufficient justification for delaying generic letter responses concerning downstream effects.

Industry Question 5:

2.d(viii) asks us to verify that trash racks and sump screens are capable of withstanding the loads imposed by expanding jets, missiles, the accumulation of debris, and pressure differentials caused by post-loss-of-coolant accident (LOCA) blockage under predicted flow conditions. This cannot be verified until detailed designs are completed for any necessary screen modifications. While evaluations will be completed by 9-1-05, detailed designs will not.

Staff Response:

The staff expects that licensees will provide the information requested in the generic letter to the best of their abilities by the requested submittal date (September 1, 2005). However, the staff would be comfortable with minor updates to the September response if further analysis or investigation brings to light new information. An example would be a small change in the head loss calculation if a licensee finds during a containment walkdown a difference between the debris loading assumed in the calculation and what actually exists in containment. Other examples of minor changes could include the correction of an error or the adoption of a refinement in a calculation that doesn't result in significant design changes.

The staff is concerned that major changes to licensees' September 1st generic letter responses (concerning either the sump performance evaluation or the design details for any planned plant modifications) could result in delaying the ultimate resolution of Generic Safety Issue 191 beyond December 2007. For this reason, if a licensee subsequently desires to make major changes to its September 1st generic letter response, the staff will likely attempt to pursue additional interactions with that licensee to ensure that the overall resolution schedule is maintained.

Finally, a substantially incomplete September 1st response would be considered non-responsive to the generic letter and would result in additional interactions with the staff and possibly additional regulatory action.

Industry Question 6:

The integrated chemical effects tests (ICET) results from Los Alamos National Laboratory (LANL) are not adequate for purpose of determining additional screen headloss due to chemical effects. Unless steps are taken to thoroughly eliminate the potential for chemical effects in the post-LOCA environment (by changing buffer, removing problematic metals, etc.), headloss information is required in order to cope with chemical effects. Therefore, headloss testing needs to be an industry and regulator priority.

Staff Response:

The staff generally agrees with this comment. The purpose of the ICET is to analyze the types of chemical reaction products (particularly gelatinous materials) that can be formed under conditions representative of the post-LOCA environment of a typical PWR sump. The ICET program was not intended to include head loss testing of any chemical reaction products that might form. The ICET program also was not designed to envelope the chemical conditions and environmental parameters for all pressurized-water reactor (PWRs). Further, the ICET program was not intended to address the possibility of other potentially adverse interactions with chemical reaction products, such as the potential for downstream effects. Instead, the staff considers it the responsibility of each licensee to ensure that its facility is operated safely, and if further research is necessary to address chemical effects, the staff would consider that research to be a licensee responsibility. The staff is, however, making the results of its testing publicly available, has actively encouraged industry to complete any necessary testing or analysis (e.g., an August 25, 2004, letter from B. Sheron to A. Pietrangelo), and is further willing to share technical insights with licensees or industry groups planning to develop their own chemical effects test program.

Industry Question 7:

We would like to know why there is an objection to not having all of the information by 9/1/05 if we still intend for all of our plants to be complete prior to the end date of 12/07. Please call if you have any questions.

Staff Response:

The September 1, 2005, date by which Generic Letter 2004-02 requested information concerning licensees' emergency recirculation sump performance evaluations and planned modifications was chosen for several reasons. First, to ensure a timely closure for Generic Safety Issue 191, the staff recognized that licensees may need to complete sump performance evaluations and plan modifications sufficiently ahead of their planned implementation dates to provide assurance that implementation will proceed without delaying overall issue resolution or necessitating mid-cycle outages. Second, as the resolution schedule for Generic Safety Issue 191 extends until December 2007, the staff considered it important for interim milestones to be included as a way of measuring licensee progress in addressing the identified potential sump performance issues. Therefore, by providing the information requested, the September 1st

generic letter response will provide the staff assurance that licensees are making substantial progress in resolving Generic Safety Issue 191 in a timely manner.

Industry Question 8:

What level of detail is the staff expecting for description of the changes to be made to the plant in support of the resolution of the issue? Are we expected to provide an overview of the changes or detailed explanations of each of the changes including the benefit of the changes?

Staff Response:

The staff expects a comprehensive high-level description in response to the information request. Basically, the staff expects sufficient information to understand what changes are being made to the plant and why they are being made. Lengthy, detailed responses would generally not be necessary; however, if, after staff review, further information were determined to be necessary, a request for additional information would subsequently be issued.

Examples of the level of detail requested by the staff are below:

- "A [ ] inch debris curb will be installed in the vicinity of the sump strainer. The curb was sized to be effective for the [types, sizes, and amounts of debris sources at the plant] under calculated flow velocity of [ ]."
- "Sump screen openings were sized to be [ ] inches in diameter based upon the need to exclude debris larger than [ ] from causing [blockage, damage] at the [component]."
- "Trash racks having an area of [ ] ft^2 will be installed over the refueling cavity drain. The trash rack will be sufficient for preventing upstream blockage because ."

Industry Question 9:

Regarding any proposed licensing basis changes, what level of detail is the staff expecting be provided for these changes? Additionally, does the staff expect the licensees to provide a basis for why the proposed licensing basis changes are within the scope of 50.59?

Staff Response:

The staff expects a comprehensive high-level summary of proposed licensing basis changes (including those not requiring prior NRC approval in accordance with 10 CFR 50.59), along with a brief basis for the proposed change. The level of detail should sufficiently describe/summarize the proposed license change. For example,

- "Containment overpressure credit will be increased from x to y, and this change is acceptable because _____."
- "TS additions/changes will be submitted for new safety-related active components of pumps and/or valves and/or electrical power supplies, etc."

Although licensees should use their own judgment, the generic letter responses generally need not provide a basis for why the proposed licensing basis changes may be made without NRC staff review in accordance with 10 CFR 50.59; if the staff has a question on a particular item in

a licensee's response, however, a request for additional information will be issued. Actual 50.59 evaluations themselves should not be submitted along with the generic letter response, although they would be subject to inspection review under the Reactor Oversight Program and should be available for staff review (e.g., should the plant be chosen for an NRC staff audit).

Industry Question 10:

For licensing actions (amendments) the licensee is considering implementing for resolution of this issue, what is the expectation for detailing these actions within the response?

Staff Response:

The staff expects a brief summary of the proposed licensing action, including a brief technical basis for the proposed change, as well as an expected submittal date that is consistent with the overall resolution schedule for Generic Safety Issue 191. Examples of the level of detail expected are provided in response to industry question 8 and 9 above.

For more detailed expectations concerning submittal dates for licensing action requests, please see the staff's response to industry question 3.

Industry Question 11:

Assuming a licensee chooses to utilize the Chapter 6 methodology for alternate break size, does the staff expect that this approach and its basis be fully explained and justified within the response?

Staff Response:

The staff expects the level of detail to be provided in the September 2005 GL response to be consistent with the detail typically provided in a license amendment request. This suggests a fairly detailed technical description of the methodology applied, including assumptions and results. The staff will review each licensee's GL response and based on the response, may request additional information. Please see the staff's response to industry question 3 concerning the submission of any licensing action requests that may be necessary in conjunction with the application of the Section 6 methodology.

Industry Question 12:

If a licensee chooses to use the alternate break size methodology, does the staff want a licensing amendment submitted or will the SER provided for the GR [i.e., the guidance report, NEI 04-07, "Pressurized Water Reactor Sump Performance Evaluation Methodology"] be sufficient for use of this methodology?

Staff Response:

As discussed in the GSI-191 SE, licensees choosing to apply the Section 6 methodology must consider whether plant specific exemption requests or license amendment requests are needed. The GSI-191 SE is not sufficient for this purpose. As stated in Section 6 of the

GSI-191 SE, “Based on this, such an alternative approach might require plant-specific license amendment requests or exemption requests from the regulations, depending on each licensee’s chosen resolution approach. Licensees could request, on a plant-specific basis, exemptions from the requirements associated with demonstrating long-term core cooling capability (10 CFR 50.46(b)(5)). For example, exemptions from the requirements of 10 CFR 50.46(d) may be required if a licensee chooses to classify new equipment as nonsafety related or not single-failure proof. For purposes of resolving GSI-191, exemption requests would not be applicable to the other acceptance criteria of 10 CFR 50.46 (peak cladding temperature, maximum cladding oxidation, maximum hydrogen generation, and coolable geometry), and would be submitted in accordance with existing NRC regulations (10 CFR 50.12). Additionally, changes in analytical methodology or assumptions may also require license amendment requests. Licensees would assess the need for license amendment requests in accordance with the requirements of 10 CFR 50.59.”

Industry Question 13:

What is the current staff position regarding the use of the Chapter 6 methodology for establishing margin for those licensees that may be space limited to provide substantial margin for unknown effects, e.g., chemical effects?

Staff Response:

The intent of the Section 6 methodology is to provide an alternate resolution approach which includes both realistic and risk-informed elements. This methodology identifies a debris generation break size to distinguish between customary and realistic design basis analyses. Licensees utilizing this approach may gain margin by doing so, however, the methodology still maintains that licensees demonstrate mitigative capability up through the double-ended rupture of the largest reactor coolant system pipe. The staff would consider application of the Section 6 methodology to establish margins available for uncertainties or unknowns in other phases of the analysis. However, to do so, licensees will need to quantify the margin available and required. Uncertainties from effects that are currently unknown (e.g., chemical effects) would impact the Section 6 analyses in the same way as they would a deterministic analysis because the uncertainty is inherent in both.

Industry Question 14:

The staff has repeatedly stated that they expect the licensees (and industry) to provide the definition of "acceptable margin" for the unknowns associated with chemical effects and other "potential" impacts to sump screen size and capability. Assuming that site specific sump screen debris load and headloss testing determines that the proposed design has sufficient conservatisms to address these effects, would the staff find this approach [to] be acceptable?

Staff Response:

The staff reiterates that it is each licensee’s responsibility to ensure that the performance of its emergency sump(s) will support the operation of the emergency core cooling and containment spray systems in recirculation mode. As such, each licensee must make a plant-specific determination as to how much margin will be necessary to account for unknowns with respect to chemical effects and other technical issues.

There may be more than one way to demonstrate that sufficient margin exists in the sump performance evaluation. For instance, in some cases, licensees may be able to demonstrate that design margin bounds uncertainties through analysis. In others, licensees may be able to demonstrate this by comparing their own plant-specific parameters with parameters in previous tests. In still other cases, licensees may determine it necessary to perform plant-specific testing.

Whichever route is chosen (perhaps a combination of the above), each licensee should ensure that there exists a technically defensible justification behind its definition of acceptable margin.

Industry Question 15:

One of the expectations for the September response is to provide a schedule for the actions to be implemented. What level of detail is the staff expecting for this "schedule"? Please provide an example of what is considered to meet the expectations?

Staff Response:

The Requested Information section of Generic Letter 2004-02 requested that licensees submit (1) a schedule for implementing all corrective actions that are necessary (in Item 2.(b)), and (2) a schedule for making any necessary changes to the plant licensing bases (in Item 2.(e)).

The staff expects a high-level schedule identifying the starting and completion dates of major corrective actions, including, for example, modifications to equipment and structures, as well as the implementation of programmatic controls concerning the introduction of debris sources into containment.

Similarly, the staff expects that the schedule concerning plant licensing basis changes should also include the submittal (if applicable) and implementation dates.

In addition to requesting a schedule for corrective actions and for licensing basis changes, the staff notes that Generic Letter 2004-02 also requested a general description of both of these types of items. Therefore, the staff also expects a general description of these items, in accordance with the guidance of the generic letter, as further clarified by the staff's responses to industry questions 8 and 9.

Industry Question 16:

One of the areas that most licensees will have to address is programmatic controls. What is the expectation for the level of detail to be provided in the response?

Staff Response:

In Item 2.(f) of the Requested Information section of Generic Letter 2004-02, the staff requested information on planned or existing programmatic controls to ensure that potential sources of debris that are brought into containment are assessed for potential adverse effects on the emergency core cooling system and containment spray system recirculation functions.

The staff expects that the generic letter response will identify any applicable programs, briefly state the objective of the program, and briefly state how implementing the program will result in the program objective being satisfied.

Industry Question 17:

If a licensee chooses to take an exception (or exceptions) to one or more of the suggested programmatic or technical issues addressed in the GL, what level of detail and supporting basis does the staff expect to be included in the response?

Staff Response:

Should a licensee decide to take an exception to the approved evaluation methodology suggested in Generic Letter 2004-02 (i.e., the NRC SE), the staff expects a level of detail such that it will be clear what exceptions are being taken and why the licensee considers these exceptions to be acceptable. The level of detail provided should be commensurate with the significance of the exception that a licensee is taking.

For instance, if a licensee performed plant-specific testing to justify taking an exception to a particular line item in the NRC SE (e.g., debris destruction pressures, debris distribution fractions, debris transport fractions, etc.), it would generally be sufficient for the generic letter response to state the exception being taken and then explain why the plant-specific testing is applicable and adequate to justify the exception. Based upon the level of information provided, the staff would then consider whether a request for additional information is necessary to review the acceptability of the exception taken by the licensee.

However, the NRC staff would likely consider a licensee's response to the generic letter to be substantially incomplete and non-responsive to the generic letter if it takes exception to an entire technical issue in the generic letter (e.g., chemical effects, downstream effects). A significant body of research and analysis has been performed by the NRC and industry to demonstrate that the technical issues addressed in the generic letter should be analyzed on a plant-specific basis. Therefore, generic letter responses that do not address each of the technical issues would result in additional interactions with the staff and possibly additional regulatory action.

The NRC staff does not envision any generic letter responses taking exception to programmatic controls (i.e., controls to exclude foreign material from containment, controls to ensure containment drainage paths are unblocked, controls to ensure sump screen/strainer integrity, and controls to evaluate materials introduced or installed into containment, such as insulation, coatings, and signs, as potential debris sources).

Industry Question 18:

What, if any supporting documentation is the staff expecting to be submitted with the response? The staff has previously stated that each licensee would be audited following implementation of the changes proposed by the licensee. If this is still true, wouldn't this be when the supporting documentation would need to be available?

Staff Response:

The staff does not expect that licensees will submit documentation of calculations, evaluations, and design details along with their generic letter responses. As explained in the responses to several other questions, the staff is expecting comprehensive summaries only. The staff will review all licensees' generic letter responses, and if additional information is necessary for the staff's review, a request for additional information can be issued.

The staff is planning to perform sample audits for a number of plants, but not all plants. The sample audits will provide an opportunity for the staff to review detailed documentation supporting licensees' generic letter responses.

Industry Question 19:

Has the staff considered assigning personnel to function similar to Project Managers for plants to provide a single point of contact for resolution of this issue? The PMs currently assigned to the plants most probably do not have the same level of background knowledge on this subject as those who have been living it for the last few years.

Staff Response:

It is best for plant submittals, including proposed license changes, as well as other questions from licensees regarding Generic Safety Issue 191 and Generic Letter 2004-02, to be made through the NRC Project Manager assigned to their plant. There is a lead Project Manager for both Generic Safety Issue 191 (Jon Hopkins) and Generic Letter 2004-02 (Michael Webb) that can be contacted, if the plant PM has a question.

Industry Question 20:

Assuming that a licensee is currently licensed to leak before break (LBB) for dynamic effects associated with the rupture of a main reactor coolant system pipe, does the staff consider it necessary to demonstrate the proposed (or current) sump design is adequate for jet impingement loading? It is understood that this exception can not be taken for consideration of debris generation.

Staff Response:

The staff has addressed this question in previous public meetings, as well as in the GSI-191 SE. Licensees should analyze their proposed (or current) sump designs in accordance with their current licensing basis methodology for jet impingement loading considerations. The staff's position is stated in Section 7.1 of the GSI-191 SE as follows,

> Consideration of sump structural analysis in the GR [i.e., the guidance report, NEI 04-07, "Pressurized Water Reactor Sump Performance Evaluation Methodology"] and in this SE is limited to the debris loads and the hydraulic loads imposed by water in the sump pool. Dynamic loads imposed on the sump structure and screen by break-jet impingement must be addressed in accordance with GDC 4, including provisions for exclusion of certain breaks from the design basis when analyses reviewed and

approved by the NRC demonstrate that the probability of fluid system piping rupture is extremely low.

Paragraph 2(d)(vii) of the information request section of GL 2004-02 requests that addressees verify that trash racks and sump screens are capable of withstanding the loads imposed by expanding jets and missiles. The staff requests addressees to verify that the trash racks and sump screens continue to meet the current design-basis requirements under GDC 4, as discussed above.

Industry Question 21:

Does the staff expect that licensees will need to add new, or revise existing, technical specification requirements associated with the resolution of this issue? Since these analyses provide the basis for determining the acceptability of ECCS to meet 10CFR50.46 requirements, do we need to ensure there are technical specification surveillances in place for assessing the adequacy of the configuration? If the staff determines that this may be necessary, has this consideration been evaluated as a potential backfit?

Staff Response:

The fundamental purpose of Generic Letter 2004-02 is to verify adequate recirculation sump performance to ensure that pressurized-water reactor (PWR) licensees are in compliance with existing regulations and regulatory requirements, including 10 CFR 50.46, General Design Criteria 38 and 41, and other plant-specific licensing requirements and safety analyses. The staff is not expecting licensees to add or revise technical specifications unless changes are required by existing regulatory requirements. Therefore, a backfit analysis is not required by the Backfit Rule, 10 CFR 50.109, due to the compliance exception (a)(4)(i).

To determine whether technical specifications changes are required, licensees need to review the changes being made against existing regulatory requirements (e.g., 10 CFR 50.36) and take appropriate action. The staff believes that sump strainers and other modifications to ensure emergency core cooling system and containment spray system reliability would meet Criterion 3 by serving as part of the primary success path to mitigate design-basis accidents such as LOCAs. Depending on the actions licensees choose to take in response to the generic letter (e.g., changing RWST level setpoints, changing containment sump buffer solution, replacing passive components with active components), new or revised limiting conditions for operation and surveillance requirements may or may not be needed. Therefore, it is each licensees' responsibility to consider the existing applicable regulations, particularly 10 CFR 50.36, to determine whether the corrective actions they have proposed should include technical specifications and/or bases changes.

Industry Question 22:

Assuming the LBLOCA redefinition (rule change) proceeds as currently anticipated, would the staff consider relaxation of any of the current GSI-191 requirements?

Staff Response:

The staff considered the proposed 10 CFR 50.46 rulemaking and addressed this in Section 6 of the GSI-191 SE. The staff currently expects to provide a final rule package to the Commission for approval by Summer 2006. The GSI-191 schedule requires that licensees complete all necessary actions by December 31, 2007. The staff does not plan to delay the GSI-191 schedule or relax any of the current Section 6 requirements in advance of or to accommodate the proposed rule change. The proposed rule must still go through the public comment and final approval process, and could certainly be revised prior to final issuance. The requirements in Section 6 of the GSI-191 SE were consistent with the proposed 10 CFR 50.46 rule at the time the SE was written. As stated in the GSI-191 SE, "The staff also considered the GR [i.e., the guidance report, NEI 04-07, "Pressurized Water Reactor Sump Performance Evaluation Methodology"] guidance regarding consideration of the ongoing 10 CFR 50.46 rulemaking effort. The staff agrees with the recommended guidance that licensees may re-perform the sump performance evaluations using the final break size specified in the rulemaking and modify the plant design and operation accordingly. This would assure consistency with the new requirements of 10 CFR 50.46. The staff expects that the DGBS [debris generation break size] specified in this section will bound the transition break size specified by these new requirements."

Industry Question 23:

Assuming that a licensee has (or will be) implementing interim compensatory actions (EOP changes) to deal with this issue, would the staff consider these changes to be acceptable to deal with portions of the overall issue in lieu of more extensive hardware changes?

Staff Response:

The fundamental purpose of Generic Letter 2004-02 is to verify adequate recirculation sump performance to ensure that pressurized-water reactor (PWR) licensees are in compliance with existing regulations and regulatory requirements, including 10 CFR 50.46, General Design Criteria 38 and 41, and other plant-specific licensing requirements and safety analyses.

Generic Letter 2004-02 does not mandate hardware modifications as the sole means of ensuring regulatory compliance; rather it is each licensee's prerogative to decide how best to achieve or assure regulatory compliance. Therefore, the staff would not reject categorically the possible approach of a generic letter response stating that, following a mechanistic evaluation of sump performance in accordance with accepted guidance, a licensee had determined that permanent emergency operating procedure (EOP) changes were sufficient to ensure regulatory compliance. However, if a mechanistic evaluation of sump performance demonstrates that permanent EOP changes alone are insufficient to ensure regulatory compliance, then hardware modifications or other corrective actions would be necessary instead or as a supplement to the permanent EOP changes.

In summary, the staff is not concerned with the specific nature of the corrective actions proposed by a licensee (e.g., hardware modifications, procedural changes), as long as they are adequate to ensure regulatory compliance.

Industry Question 24:

Item 2(d)(iii) on page 10 of the GL states that a license's submittal should include "The submerged area of the sump screen at this time and the percent of submergence of the sump screen (i.e., partial or full) at the time of the switchover to sump recirculation." The meaning of "at this time" in that sentence is not clear. The NRC should be requested to explain their intent.

Staff Response:

This question is quite similar to industry question 1, and the staff will duplicate its reply to that question: The staff realizes that this item was worded ambiguously. “At this time” was meant to refer to the time of switchover to sump recirculation. Therefore, to clarify, the two pieces of information requested in Item 2.(d)(ii) of Generic Letter 2004-02 are (1) the submerged area (ft^2) of the recirculation sump screen at the time of switchover to recirculation, and (2) the percentage (%) of the sump screen area that is submerged at the time of switchover to recirculation.

Industry Question 25:

Item 2(e) on page 11 of the GL states that a license's submittal should include "A general description of and planned schedule for any changes to the plant licensing bases resulting from any analysis or plant modifications made to ensure compliance with the regulatory requirements listed in the Applicable Regulatory Requirements section of this generic letter. Any licensing actions or exemption requests needed to support changes to the plant licensing basis should be included." The NRC should be requested to confirm that the intent of last sentence is not that all necessary amendment requests and exemption requests be included in the 9-1-05 letter, i.e., the 9-1-05 letter need only include a schedule for such requests.

Staff Response:

Please see the staff’s response to industry question 3.